

## ROLE OF ELECTRONIC BANKING VIS-À-VIS BRANCH BANKING

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### ABSTRACT

#### Introduction

*A Bank provides two major channels for utilizing its services. Banking can be provided either through the electronic channel or through the branches. Branch Banking is nothing but carrying out banking transactions via branches of banks. It is the oldest way of banking in India. Electronic Banking (e-banking) is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution (Bankers Online, 2013). The Indian banking industry has undergone a huge transformation from branch or offline payment mode through cheques to electronic payment mode through electronic banking. It remains to be seen which channel dominates the other in the long term. It would also be interesting to understand which channels among the electronic banking channels play a complementary role with the other*

#### Purpose

*Objective is to study whether Electronic only/ internet only banking is a complement or can be a substitute to branch banking in India. This study also examines the role of other electronic banking channels (like ATMs, Credit Cards, Debit Cards, mobile banking) as a complement to internet only banks (internet banking).*

#### Methodology

*For the purpose of this study, both quantitative and qualitative survey designs are used. The Population consisted of people using electronic banking services. The primary source of data collection was Questionnaire. Total 101 customers were involved in our pilot study. The data is pertaining to pilot study*

#### Results

*Our pilot study indicated that most of the consumers of our sample (63%) consumers think that an internet only banking model/ electronic only banking model would be able to substitute branch banking model. However, maximum people from our sample think it is necessary for branches to exist. Also, our study indicated that ATMs and phone banking are the two most important channels that are required to exist or complement the internet only banks or the internet banking channel in India*

**KEYWORDS:** Indian Banking, Electronic Banking, ATMs and Mobile Banking

Original Article

**Received:** Dec 09, 2016; **Accepted:** Jan 16, 2017; **Published:** Jan 21, 2017; **Paper Id.:** IJAFMRFEB20171

## INTRODUCTION

### Branch Banking in India

Branch Banking is nothing but carrying out banking transactions via branches of banks. The biggest advantage of Branch banking is that it enables face to face interaction which enables sharing of knowledge which in turn enhances mutual trust, provides personalized attention and receptiveness. The biggest disadvantage

of branch banking is confined to working hours and hence there is less flexibility in terms of that it offers.

In India, banking was restricted to branches for a number of years and banking through the branches has been the oldest way of banking. The customers, due to lack of any other option, were compelled to carry banking transactions by visiting the branches of banks. Infact in India, for years, branch banking was the only way known to carry out banking transactions. During those days, banks were selected on the basis of their location. The secondary factor for selecting banks during this period was quality of staff. Since there were no core banking facilities and since banking was unavoidable, customers were restricted to only one branch of the bank. Since, for every banking transaction customers would visit the same branch, it was possible for customers to develop good relations with the staff of the bank. These relationships that customers developed with the staff de-motivated them from changing banks. Thus, during that period, customer loyalty was easy to achieve

However, with the passage of time and increasing number of customers the need to conduct banking transactions from anywhere and at anytime, it was realized that only limited manual services can be provided. Manual intervention can lead to more mistakes as compared to technological interaction. All this led to human interaction losing importance and technology gaining centre stage. Technology provides faster results with very few mistakes. Branches due to the closeness to customers, the one to one services that they offered and the staff's ability to persuade customers, were ahead in distribution of financial products and services till recently. However, these advantages that the traditional bank branches offer have started being replaced by dynamic electronic channels.

Bill Gates states that 'The first rule of any technology used in a business is that automation applied to an efficient operation will magnify its efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency' (RBI, 2011). Effective use of technology has a multiplier effect on growth and development of the economy (RBI, 2011).

Banks to survive and excel need to adapt themselves to the dynamic banking environment. If they fail to transform themselves in line with customer expectations they might reach the point of extinction. Non-responding banks to changes in the demands of customers may lead to poaching of customers by competition banks. Thus, to be successful in the continuously dynamic and competitive world is to respond and innovate in line with and beyond expectations of customers.

### **Electronic Banking (E- Banking) in India**

Electronic banking (E- Banking) is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution (Bankers Online, 2013). For the purpose of this paper, E-banking encompasses ATMs, Phone Banking, Internet Banking, Mobile Banking and Credit/ Debit Cards.

International Monetary Fund (IMF) describes E-banking diagrammatically as follows:

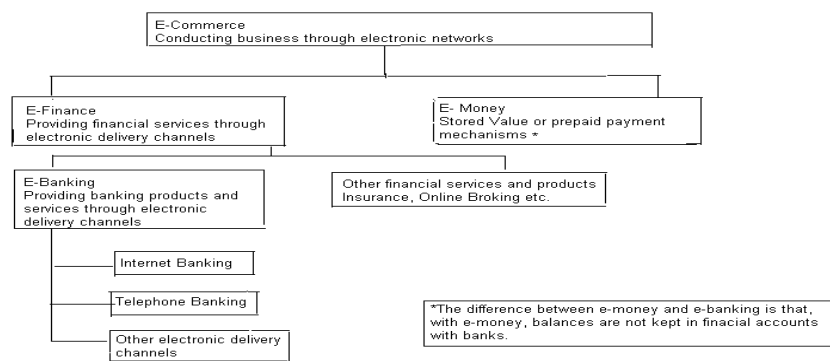


Figure 2: E-Banking

[Source: IMF (2002)]

Electronic Banking enables people to view their own account without being bound by geographic and time restrictions. Electronic Banking provides convenience to customers and saves their time. Customers' today want their resources to be fingertip-ready (Accenture, 2015). They want data promptly, as promptly as pulling out a mobile phone out of their pocket. In five short years, at least three of every four customer interactions will be online or mobile (Accenture, 2015). That's the revolution that banking on the move is expected to bring with it.

IT is a catalyst for the development of sophisticated products, evolution of better market infrastructure and the implementation of reliable techniques for risk management (RBI, 2011). The most important contribution of IT has been the manner in which it has made it possible to carry out financial transactions across the globe. IT plays an essential role in banking. Technological advancements seem to have a greater impact on revolutionizing the banking sector than on any other sector. The banking sector that is one of the most important parts of the financial sector, is now offering services globally. By introducing the possibility of online financial transactions, IT in banking has immensely scaled up the level of activity by making services and products easily available at an affordable cost and accessible to an ever-increasing set of people (RBI, 2011). Information and communication technology functions are fundamental to the success and stability of banks as well as in increasing their outreach to the unbanked or under banked areas of the country with limited 'brick and mortar' structures (RBI, 2011). It is, therefore, necessary that banks prioritize these functions at the highest level (RBI, 2011).

E-Banking or Non Branch Banking was introduced in India only in the 1990s (Wikipedia, 2013). In India, banks have started moving from the traditional way of banking to digital way of banking that is from banking via branches to banking via technology. Technology adoption has made it easier and faster to process customer transactions. It has also reduced the scope of errors in manual entry of transaction. Technology enabled core banking solutions that made it possible for customers to bank from any branch of their bank irrespective of their core branch. Banks moved from here to offering telephone banking and internet banking that made it possible to transfer funds convenient and monitoring of accounts easy. Banks from here cashed in on the smart phone boom in India by offering and promoting mobile banking. Few banks have started offering service banking/ kiosks and digital branches which enable customers to perform banking transactions without the help of manual interventions. Huge competition and dynamic world of technology has pressurized banks to offer, over the recent years, innovative technology based services. This pressure has resulted in the emergence of different modes of providing banking like ATM, Telephone Banking, Internet Banking and Mobile Banking. Innovative Banking services are providing more and more value added services and convenience to customers. E-banking has brought

the banks closer to consumers by being available for them at any time and at any place. Dynamic consumer needs have pushed banks to change the way in which their services are being offered to customers'.

New generation banking customers look at banking products in the same way as they see any other product that can be purchased online and are increasingly researching, enquiring and purchasing via the internet (Capgemini, 2015). Revolutionary banking services are being introduced at a very fast pace pushed by cost reduction due to technology. For example, in Brett King's book, 'Banking 3.0', he chooses a level of 50 million users as the definition of a target figure for a market. For planes and cars to reach this level took over 60 years, for credit cards took 28 years but more recently, contactless credit cards took only four years to reach 50 million users, while Facebook and Twitter took only 3 and 2 years respectively (Financial Brand, 2016).

Some of the innovations by banks as a part of the digital service offerings are 24x7 Electronic Branch/ Digital Branches, Tab Banking, Bank-on-the-Move, E-Locker and Help-on-Tab (Accord Fintech, 2012). The 24x7 Electronic Branch/ Digital Branch is a branch at which customers can transact on their own, at their own time without manual intervention and with the help of self service devices and kiosks. The Tab Banking permits a potential customer get his bank account opened conveniently from his home or office. Bank-on-the-Move is a POS terminal with an in-built GPRS and Wi-Fi connectivity which enables customers to carry out banking transactions in remote locations where there are no branches and ATMs (Accord Fintech, 2012). E-Locker is an electronic online locker that is available on the electronic banking platform. Help-on-Tab enables the branch banking employees to pre-process customers' transactions while customers are waiting to get serviced in the branch (Accord Fintech, 2012). The recent launch of Unified Payment Interface (UPI) is expected to make electronic payments and purchases easier for customers, in the process delighting customers. UPI enables a person to transfer funds without knowing the account no. of the person, only based on a virtual ID, which will serve as an identifier.

Change has been the only thing constant in the banking industry and the pace of change has been reducing with every innovation that has been taking place in the banking industry.

### Scope of E-Banking in India

India had about 375 million Internet users in October 2015, making it the third largest Internet user after China and US (Mint, 2015). The figure given below summarizes the number of internet users in India in urban and rural areas:

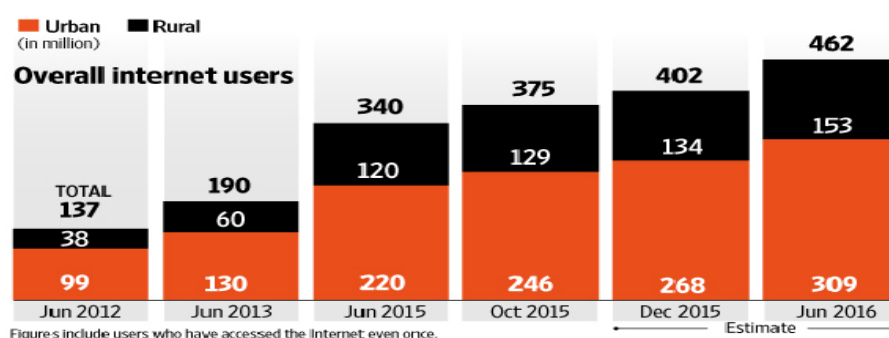


Figure 3

Source: Mint, 2015

Although the transaction using mobile phones have increased over the past few years, the use of mobile banking services is quite low (Business Today, 2012). Mobiles are being used primarily for carrying out transactions that are non-financial in nature (Business Today, 2012). The servicing cost of a customer coming to the branch for withdrawal of money is higher compared to the service cost of a customer using an ATM for the same service. The cost of servicing a client is highest at a branch followed by ATMs, online banking and mobile phones (Business Today, 2012). The use of technology has enabled banks to save on their costs and this has led banks to discourage usage of branches for such purposes that have an alternate way of being serviced. Technology has even reduced the cost for setting up a branch. Earlier, the physical infrastructure needed for a branch was, on an average, around 4,000 to 5,000 square feet and today the same is at an average of 1,000 to 1,500 (Business Today, 2012). The technological revolution has altered the service delivery channel of banking from traditional to digital channels. In the time to come, digital banking will not only be acceptable mode of banking but will be the favored mode of banking (Basak, 2014).

The convenience it offers to the customers, the ease of use coupled with the push from the Government of India to adopt digital payments is all leading to shift people from paper based transactions to paper less transactions. The Reserve Bank of India's inclination towards adoption of digital and paperless payments rather than paper based banking, has been encouraging banks to offer new modes of electronic banking and innovations in the current services of electronic banking. The share of paper-based transactions in volume terms, accounted for 25.4 per cent of the total transactions during 2014-15, down from 33.9 per cent in the previous year (RBI, 2015). Their share in value terms also declined to 5.4 per cent from 6.2 per cent. (RBI, 2015). As of 2011-12, more than 98 per cent of the branches of public sector banks were fully computerized and almost 92 per cent of branches within the computerized branches were on core banking platform (RBI, 2012). The no. of ATMs by the year 2012-13 exceeded than the no. of bank branches. The percentage change in the number of ATMs has been higher than the percentage change in the number of branches. The number of credit cards has increased from 17.65 mn in 2011-12 to 24.51 in 2015-16 (RBI, 2016). The value of credit card transactions has also increased from INR 979 bn. to INR 2411.60 bn (RBI, 2016). The volume of debit cards has also increased from 278.28 mn. to 661.82 mn from 2011-12 to 2015-16 (RBI, 2016). In value terms, debit cards' usage has increased from INR 14532 bn. to INR 26911.96 bn. over the same period (RBI, 2016).

RBI has been encouraging the use of technology in banking operations. Some of the important developments that have taken place in the area of payment system in India under the guidance and oversight of Reserve Bank of India are as follows (RBI, 2015): in the early 1980s RBI introduced MICR clearing to mechanise the cheque clearing system, in 1990s Electronic Clearing Service and Electronic Funds Transfer were introduced and Credit and Debit cards were permitted to be issued by the banks, in 1996- Institute for Development and Research in Banking Technology (IDRBT) was set up with objectives of technological upgradation and development of a reliable communication network, in 2003 interconnectivity of ATMs across the country was introduced, in 2004 RTGS and NEFT introduced by the RBI, in 2008- Cheque Truncation System was introduced, in 2009- The second factor authentication for the 'card not present' transaction was introduced by RBI, in 2012- RuPay – a domestic card payment network was introduced, in 2013- new RTGS with enhanced features was introduced.

While all the efforts of the Government of India, RBI, banks and other non banking institutions has increased the acceptance of cash less payments in India, cash is still king for many Indians. India is still a cash-intensive economy with cash-to-GDP ratio of 12% (Rediff, 2016). Cash is being used by Indians since it is considered to be simple to use and

inexpensive. As per various estimates, 95% of consumer transactions by volumes and 65% by value in India are carried out in cash (Rediff, 2016). However, looking at the stress laid down by the Government of India to reduce cash transactions in the economy, by proposing incentives for card payments, doing away with service charges and taxes on card payments, it seems that the future of digital banking is very bright in India. As per the Accenture Banking Consumer Pulse Report, 2015, emerging markets, where the average of total monthly interactions of customers with their banks is 21, display a high inclination towards utilization of digital channels. As per the World Banking Report, 2016, customers have begun opting for convenient smart phone banking which has led to a decline in the usage of branches for banking. The report also states that the internet still remains the most popular way to access the bank. It further states that though customers are changing their channel of banking, they still derive value from every banking channel and hence there is a need to develop an integrated set of banking channels to meet the diverse needs of customers.

## **STATEMENT OF PROBLEM AND NEED FOR STUDY**

Technology led innovations and disruptions are forcing banks to keep reviewing their service offerings and customer expectations. In the race to move ahead of competition, banks are constantly responding to customer expectations that may arise even before they actually arise. The result of all this is that customers are being offered newer services day by day and the pace of change is pushing customers to seek more and more innovations from their banks. The ultimate beneficiary in this technologically dynamic world is the end consumer who is the centre of attention of these banks and who is benefitting greatly in terms of cost, convenience as well as time.

While the focus of innovations is more in the digital side of banking, it remains to be seen whether digital banking would be a substitute or would complement branch banking and can survive independently without a branch. The trend at present shows that customers are demanding more and more innovation on the electronic side of banking, only time will tell whether branch banking is inevitable or it can be done away with. The obvious reasons for digital banking to be more sought after, at present is that it is cost efficient both for the banks as well as customers, it is convenient and there is less scope for errors compared to branch banking.

Thus, with the ever improving technology and huge competition in the banking industry the need to study which model of banking (that is branch banking or electronic banking) will be able to gain more popularity, has gained importance. It is also important to understand the channels of electronic banking that a consumer feels are inevitable. This study will enable banks to understand on which mode of banking they should focus and the channels of electronic banking that are being seen as inevitable by today's consumers'. This will help banks to formulate strategies for the future. Delighting customers' through exceeding their expectations is an important challenge and a significant area of focus for banks. Hence, this study gains more importance in the backdrop of high competition and constantly changing consumer loyalty and needs.

There is a paucity of research on understanding whether electronic banking would be a complement or a substitute to branch banking and on investigating the role of other electronic banking channels as a complement to internet only banks (internet banking). Therefore, we have taken up this study.

## **LITERATURE REVIEW**

De Young (2001) inferred that although the conservative mindset predicts that internet-only banking is an unsuccessful business model, it may actually be too early to comment on the success or failure of this model. The same

author (2001) feels that with time and experience, internet-only banks may operate more proficiently in the future, and as they become bigger, they may earn higher profits vis-à-vis traditional banks due to economies of scale. De Young *et al.* (2007) concluded from their research that internet-adopting bank was different from branch banks in terms of product mix and profitability.

*The researchers have not examined the relationship that other e-banking channels (which can be used with or without internet) share with internet only banks. The researchers have studied electronic banking in isolation, that is, they have not examined whether e-banking can substitute or complement banking via branches.*

Hernando and Nieto (2007) stated that the profits of banks were directly impacted due to acceptance of internet banking which enables lower costs. Cyree *et al.* (2009) inferred that the strategy of Internet primary banks may be a threat to the traditional banking institutions since the internet banks could generate higher profits from their business strategy.

*The researchers have examined the benefits of internet banking and impact of internet banking on branch banking. However, they have not studied the impact of all electronic banking channels, taken together, on branch banking. They have also not examined the relationship that other e-banking channels (like ATMs, debit cards, credit cards, mobile banking which can be used with or without internet) share with internet banking*

Wamalwa (2006) concluded from his study that internet banking did not share a negative relationship with branches of banks and that from his research he found that internet banking was not a threat to branch banking. The same author (2006) was of the view that banks that do not have branches increase competition which pressurizes branches to adopt technology. Wong *et al.* (2008) concluded that though electronic banking and traditional banking interact with their customers differently they are indivisible part of the banking system, and their role should not be seen as a substitute to each other but should be seen as a compliment to each other. Ioannou and Zolkiewski (2009) inferred that electronic banking cannot substitute other delivery channels. Driga and Isac (2014) were of the view that electronic banking will certainly overcome traditional banking in the near short term.

The authors have not examined the relationship that other e-banking channels share with internet banking.

There is a paucity of research in this area in India and hence it is an interesting area for research.

The Summary of the above mentioned studies has been tabulated below:

**Table 1: Summary of the Studies on Electronic Only Banking**

Author/ Year/ Journal	Area of Study	Gaps in the study
De Young (2001), BIS Paper No. 7 De Young <i>et al.</i> (2007), Journal of Banking and Finance	Financial progress of pure-play internet banks. Effect of internet on output and performance at Community Banks	-Role of other e-banking channels as a compliment to internet only banks. -E-banking is a complement or can be a substitute to branch banking
Hernando and Nieto (2007), European Financial Management Cyree <i>et al.</i> (2009), Journal of Economics and Finance	Investigation on whether Internet Primary Banks in Europe Show Scale and Experience Efficiencies Examination of the performance and prospects for the future of internet-primary banks	-The impact of all electronic banking channels, taken together, on branch banking. -Relationship that other e-banking channels (which can be used with or without internet) share with internet banking.
Wamalwa (2006), Capella University Wong <i>et al.</i> (2008),	Impact Of Internet Banking On Banks in US Traditional Service Quality in an E-	- Relationship that other e-banking channels share with internet banking.

International Journal of Bank Marketing Ioannou and Zolkiewski (2009), EuroMed Journal of Business, Vol. 4 No. 3 Driga and Isac (2014), Annals of the University of Petroșani	banking Era Studied whether retail bank-client relationships can be developed online Features, Challenges and benefits of electronic banking	
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## IDENTIFICATION OF VARIABLES

Based on the gap analysis, a summary of the major independent & dependent variables that have been identified is given below:

Table 2

Sr. No	Independent Variables	Dependent Variables	
1	Relationship shared by other e-banking channels as a compliment	Internet only banks	This variable will help us to understand the relationship that other electronic banking channels share with internet banking. It will help us to identify the other channels of electronic banking that will be required along with internet banking if ebanking is the only channel of banking taken up by a customer.
2	Role of e-banking as a complement or substitute	Branch Banking	This variable will help us to identify whether electronic banking can substitute branch banking or it can only complement it as a channel and way of banking.

Baghdadi *et al.* (2009) found that internet banking, ATM and phone banking are substitutes of each other and that internet banking is a probable threat to ATMs and phone banking. The same authors (2009) suggested that since the profile of the customers of these channels is similar, if banks confer more importance to one of these alternatives, less importance can be conferred the others. The same authors (2009) further stated that brick and mortar and Internet banking are complementary banking channels and branches are using the internet banking channel as a complement rather than a substitute to them and that branches have survived even in today's computerized society. According to an article published in Business Standard (2013), banking within the branch would never be done away with. The article also stated that in the future branches would only take care of sales while services would be taken care of by electronic banking channels.

The variables can be diagrammatically expressed as given below:

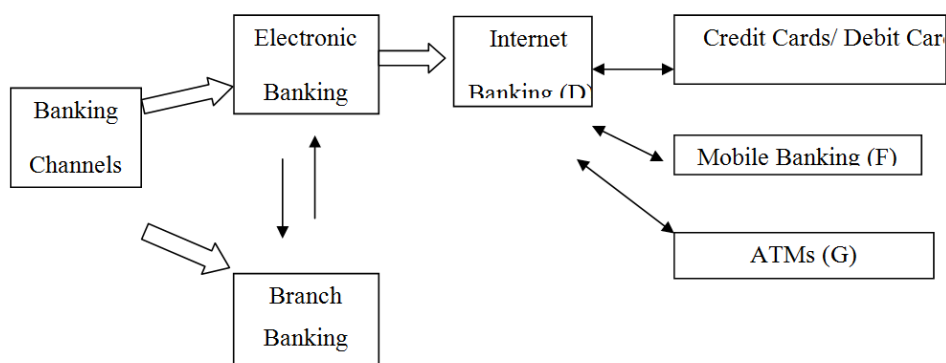


Figure 4



The above diagram can be expressed in the form of the following formula:

$A = B \vee C$  where,

$B = D \Leftrightarrow E \Leftrightarrow F \Leftrightarrow G$

Thus, banking transactions may be carried out through the electronic or branch banking channel and electronic banking may comprise of all its channels like internet banking, credit cards/debit cards, mobile banking, ATMs or some of these channels.

## OBJECTIVE

- **To Identify Whether E-Banking is a Complement or Can be a Substitute to Branch Banking in India**

This objective will help banks to understand the relationship that other electronic banking channels share with the internet banking channel. It will help banks to understand the other channels of electronic banking that will be required along with internet banking if electronic banking is the channel of banking chosen by a customer for carrying out banking transactions.

- **To Examine the Role of Other Electronic Banking Channels (Like ATMs, Credit Cards, Debit Cards, Mobile Banking) as a Complement to Internet Only Banks (Internet Banking)**

Since internet only banks are currently not in existence in India, internet banking is being considered for this objective instead of internet only banks. This objective will help us to understand whether electronic banking can substitute branch banking or it can only complement it as a channel and way of banking. This will enable banks to understand whether electronic banking is actually a threat to the survival of electronic banking. This objective would also help banks to frame their strategies with regard to branch banking and electronic banking.

## HYPOTHESIS

As per Marschall's white report (2015), while the inclination toward digital technologies is reshaping banking strategy, the branches themselves will continue to exist. Driga and Isac (2014) believed that electronic banking will overcome traditional banking in the near short term. Gallup in its research in 2013 found that most customers use multiple channels to research products, open, use and manage their accounts, resolve issues and receive notifications. The research also brought out that today's banking customer can interact with their financial institution through more channels than ever, and the channels selected can have a significant impact on bank revenues as well as customer satisfaction. According to a study by Mols et. al., (1999), most Danish retail banks confer significant importance to offer bank services via a personal computer, while fewer of them confer similar importance to branch telephone and Internet banking. The same author (1999) stated that a multiple channel strategy combining numerous channels is the most popular.

Therefore, our first hypothesis studied is given below:

- **H1: Electronic only banking model can be a substitute to the branch banking model in India**

Sharma (2016) recommended that internet banking and traditional banking, both offer unique advantages and disadvantages and hence for a prudent investor banking exclusively with one of the options would not be wise. Driga and Isac (2014) were of the view that electronic banking will certainly overcome traditional banking in the near short term. Paul (2013) concluded that the younger generation in Odisha is more inclined towards using Ebanking mainly ATMs &

conducting online transactions rather than the traditional way of banking. Ioannou and Zolkiewski (2009) inferred that electronic banking cannot substitute other delivery channels. Vyas (2008) is of the view that since ebanking is cheaper than branch transactions, the advantage of having a large branch network earlier, may become a comparative disadvantage now. The same author (2008) further stated that in the backdrop of ebanks, traditional banks will find it difficult to evolve. N Kamakodi (2008) inferred from his study that though most of the customers are willing to use electronic banking but beyond a point, 'personal touch' will be necessary along with IT for banks to preserve the existing clients and attract new clients. Wong et al. (2008) concluded that though electronic banking and traditional banking interact with their customers differently they are indivisible part of the banking system, and their role should not be seen as a substitute to each other but should be seen as a compliment to each other.

However, there is paucity of research on whether electronic only banking model will be able to substitute the traditional way of banking through branches in India. Hence, the same is being taken up.

Even within e-banking it is understood that every customer may have a different channel preference to carry out his banking transactions. While some may prefer to shop using credit cards, some may prefer to swipe their debit cards. Keeping these observations our second hypothesis under study is given below:

- **Other Electronic Banking Channels (like ATMs, Credit Cards, Debit Cards, mobile banking) play a Complementary Role to Internet only Banks (Internet Banking)**

Seema et. al. (2014) concluded from their research that for an enhanced retail delivery system it is essential to offer a steady affirmative multi-channel customer experience. Calisir and Gumussoy (2008) concluded from their research that Internet banking, ATM, and phone banking substitute each other. The same authors (2008) further stated that Internet banking is considered to be efficient in terms of ease of use and access. Wan et. al. (2005) found from their research that the most frequently adopted channel was ATM, followed by internet banking and branch banking, while the least frequently adopted channel was telephone banking. The same authors (2005) further stated that people believed that certain channels possessed certain positive attitudes which led them to conclude that ATM and internet banking would be higher than the adoptions of branch banking and telephone banking. Patricio and Cunha (2006) were of the view that different service delivery channels are being used by customers in a complementary way, after considering and assessing the benefits and drawbacks of each one of the channel.

However, there is a paucity of research on whether other electronic banking channels (like ATMs, Credit Cards, Debit Cards, mobile banking) play a complementary role to internet only banks (internet banking). Hence, it is being taken up.

## **METHODOLOGY**

### **Research Design**

For the purpose of this study, banking customers' have been approached through face to face interview. A request was made before using intercept technique. Intercept techniques are good for pilot study (Srivastava, 2016). This pilot study was conducted during October, 2016-November, 2016 in Mumbai –a financial capital of India with diverse population.

Secondary data was collected through research papers, journals, websites, books, project reports for better understanding of the subjects.

### Sample Design

Total 101 customers were involved in our pilot study. The data is pertaining to pilot study. The age group of customers ranged between 25 years and 65 years, mostly engaged in the service sector. They are selected on random basis. For pilot study random selection will give enough data for further study (Umasekharan, 2006)

### Questionnaire Design

Primary source of data collection is through questionnaire. The questionnaire incorporated type of customer, customer adoption of electronic only banking channel, customer view point on electronic banking replacing branch banking and complementary channels to internet banking channels.

### Data Analysis

Descriptive statistics, Factor analysis & KMO Test were used to examine the entire pattern of inter-correlations among the six proposed factors influencing satisfaction of customers.

### Ethical Constructs

Phone number/ Mobile number of each respondent was recorded. Any form which did not have Phone number/ Mobile number of the respondent was rejected.

## RESULTS & DISCUSSIONS

The analysis is divided in to descriptive analysis and inferential analysis for better understanding of this pilot study. The first part is related to study of demographic variables.

The sample electronic banking consumers were mostly youngsters in the age group of 25years -35 years (53.5%).

**Table 3: Age of Respondent**

		Number	Percent
Valid	25-35	54	53.5
	35-45	35	34.7
	45-55	11	10.9
	55-65	1	1.0
	<b>Total</b>	<b>101</b>	<b>100.0</b>

The sample also included people between 35years - 45years (34.7%) were, 45years- 55 years (10.9%) and above 55 years (1%).

**Table 4: Gender of Respondent**

		Frequency	Percent
Valid	Male	64	63.4
	Female	37	36.6
	<b>Total</b>	<b>101</b>	<b>100.0</b>

Most of the consumers from our sample of electronic banking customers are males (63.4%), while 36.6% of the sample consisted of females.

**Table 5: Given an Option Would U Select an Internet only Banking Model**

		Frequency	Percent
Valid	Yes	73	72.3
	No	28	27.7
	<b>Total</b>	<b>101</b>	<b>100.0</b>

Most of ebanking customers (who use electronic banking services more than branch banking services to carry out their banking transactions) are ready to opt for an internet only banking model (a banking model using which all the banking transactions including depositing money could be done electronically).

**Table 6: Classification of Customer who Would Opt for an Internet only Banking Model Based on Gender**

Gender of Respondent	Yes	No	Percent of Males/ Females who Would Opt for an Internet only Banking Model	Percent of Males/ Females who Would not Opt for an Internet Only Banking Model
Male	43	19	67.2	29.6
Female	28	8	75.7	21.6
<b>Total</b>	<b>71</b>	<b>27</b>		

**Table 7: Classification of Customer Who Would Opt for an Internet Only Banking Model Based on Age**

Age of Respondent	Yes	No	Age Wise Percent of People who Would Opt for an Internet Only Banking Model	Age Wise Percent of People who Would not Opt for an Internet only Banking Model
25-35	37	15	68.5	27.7
35-45	27	7	77.1	20
45-55	7	4	63.6	36.4
55-65	0	1	0.0	100
<b>Total</b>	<b>71</b>	<b>27</b>		

### Inference

Chauhan *et. al.* (2016), found from his research that with the other than marital status, all other demographic variables had a significant impact on adoption of e-banking in India and among them age had a major effect on it. Ameme (2015) established that demographic factors like gender do not have significant effect on customers in Ghana for adopting and using internet banking services. Fonseca (2014) was of the view that gender, age and education level are the determinants of the usage of e-banking. While on the other hand, Haq and Khan (2013) inferred that there is no significant relationship in between age and gender and use of electronic banking. Oniya and Tagg (2011) concluded that demographic factors like gender, level of education, and employment status are the primary factors impacting attitude of banking customers' to internet banking adoption in Nigeria.

From Table No.5, it can be concluded that 75.7% of the total females in our sample would opt for internet only banking model while only 67.2% of total females in our sample would opt for the internet only banking model. Hence, gender may be one of the vital factors that would impact the decision to use electronic banking. Thus, it can be inferred that females would opt for using internet only banking model more than males. However, our results contradict the results of the study conducted by Laforet and Li (2005) that men are more inclined towards using different types of technologies and that of Mirza *et al.* (2009) who also concluded that internet banking services are greatly used by men in comparison to women in Iran.

From our study and the analysis it can be concluded that age as a demographic factor does not have a significant role to play in the adoption of internet only banking. It can be concluded from table 6 above that the internet only banking model would be opted for by people across age groups. This result contradicts the findings of the study conducted by Alafeef *et al.*, 2011, who inferred that mostly people less than 35 years are the prospective users of mobile banking services.

Our next part of the study is to understand the frequency of the possibility of an internet only banking model substituting the branch banking model. Thus, it can be concluded that higher the possibility of substitution of branch banking by internet only /electronic only banking model signifies higher acceptance of such a model by the consumer. The possibility of an internet only banking model/ electronic only banking model substituting the branch banking model is given in table 5 below:

**Table 8: Do U Think an Internet Only Banking Model/ Electronic Only Banking Model Would Be Able to Substitute Branch Banking Model**

		Frequency	Percent
Valid	Yes	63	62.4
	No	37	36.6
	Not sure	1	1.0
	<b>Total</b>	<b>101</b>	<b>100.0</b>

Most of the consumers of our sample (63%) consumers think that an internet only banking model/ electronic only banking model would be able to substitute branch banking model. Our results are in line with the study conducted by Driga and Isac (2014) who concluded that electronic banking will undoubtedly overcome traditional banking in soon. However, our result is incompatible with the study conducted by Baghdadi *et al.* (2009) who concluded that brick and mortar and Internet banking are complementary banking channels and branches are using the internet banking channel as a complement rather than a substitute to them.

The next part of our study is to understand the importance of branches in the minds' of electronic banking customers. The same can be understood from the Table 8 given below:

**Table 9: Do U Think there is a Necessity for a Branch to Exist**

		Frequency	Percent
Valid	Yes	76	75.2
	No	25	24.8
	<b>Total</b>	<b>101</b>	<b>100.0</b>

## Inference

Although most of our sample customers think that branch banking can be substituted by internet only banking model/electronic only banking model, the percentage of customers who think that there is a necessity for branches to exist (75.2%) is higher than those who do not feel that there is a necessity for branches to exist. Our findings are in line with the thoughts reported in the Business Standard (2013) which states that branch banking would never be done away with

Our next part of the study is to understand the channels that would complement such an internet only bank (Since internet only banks are currently not in existence in India, internet banking is being considered for this objective instead of internet only banks). The same is explained in the tables 9-12 given below:

**Table 10: Which Ebanking Channel According to U is Required Along with Internet BankingChannel (Atms)**

		Frequency	Percent
Valid	Yes	68	67.3
	No	33	32.7
	<b>Total</b>	<b>101</b>	<b>100.0</b>

**Table 11: Which Ebanking Channel According to U Is Required Along with Internet Banking Channel (Mobile Banking)**

		Frequency	Percent
Valid	Yes	38	37.6
	No	63	62.4
	<b>Total</b>	<b>101</b>	<b>100.0</b>

**Table 12: Which E Banking Channel According to U Is Required Along with Internet Banking Channel (Phone Banking)**

		Frequency	Percent
Valid	Yes	12	11.9
	No	89	88.1
	<b>Total</b>	<b>101</b>	<b>100.0</b>

**Table 13: Which Ebanking Channel According To U Is Required Along With Internet Banking Channel (Debit Cards/Credit Cards)**

		Frequency	Percent
Valid	Yes	45	44.6
	No	56	55.4
	<b>Total</b>	<b>101</b>	<b>100.0</b>

Our research shows that most of the consumers in our study are of the view that ATM services are required along with the internet banking channel that is, ATMs complement the internet banking channel. This finding once again contradicts the study conducted by Baghdadi *et al.* (2009) who found that internet banking, ATM and phone banking are alternates to each other and that ATMs and phone banking face a threat from internet banking. Our findings also contradict the findings of the study conducted by Calisir and Gumussoy (2008) as per which Internet banking, ATM, and phone banking are substitutes of each other.

Our next part of the study is to understand whether the internet only banking model/ electronic only banking model can actually replace branch banking as per factor analysis. The same is explained in the tables 13-14 given below:

**Table 14: Component Matrixa**

	Component
Given an option would u select an internet only Banking model	.824
Do u think an internet only banking model/ electronic only banking model would be able to substitute branch banking model	.824
Extraction Method: Principal Component Analysis.	
a. 2 components extracted.	

**Table 15: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	13.459
	df	1
	Sig.	.000

Items with factor loadings of 0.40 or higher were clustered together to form separate constructs as recommended by (Hair et al. 2006). Here, only those factors whose eigen-values is more than one have been considered as significant.

The derived factors help us to conclude that the internet only banking model/ electronic only banking model would be able to substitute branch banking model and the KMO test confirms our first hypothesis which states that Electronic only banking model can be a substitute to branch banking model in India is true.

Our next part of the study is to understand whether the channel that plays a complementary role to internet only banks/ electronic only banks as per factor analysis. The same is explained in the tables 15-16 given below:

**Table 16: Component Matrixa**

	Component	
	1	2
Which ebanking channel according to u is required along with internet banking channel (ATMs)	.190	.741
Which ebanking channel according to u is required along with internet banking channel (mobile banking)	.407	-.776
Which ebanking channel according to u is required along with internet banking channel (phone banking)	.858	-.026
Which ebanking channel according to u is required along with internet banking channel (debit cards/credit cards)	.475	.457
Extraction Method: Principal Component Analysis. a. 2 components extracted		

**Table 17: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.562
Bartlett's Test of Sphericity	Approx. Chi-Square	75.378
	Df	10
	Sig.	.000

Items with factor loadings of 0.40 or higher were clustered together to form separate constructs as recommended by (Hair et al. 2006). Here, only those factors whose eigen-values is more than one have been considered as significant.

The derived factors represent the channels that complement the internet banking channel. As per the derived factors, ATMs and phone banking are the two most important channels that are required to exist or complement the internet only banks or the internet banking channel in India. The KMO test confirms our second hypothesis.

## RESULTS & DISCUSSIONS

Customers using electronic banking services were considered in our study. Our analysis shows that most of the customers feel that the internet only/ electronic only banking model can substitute the branch banking model in India.

However, it may also be noted that although most of customers under our study are electronic banking customers, they feel that banks are necessary to exist. From discussions with the sample under consideration, it was understood that the Indian population in case of any problem with technology would want a branch to exist so that their problems can be conveyed and heard face to face via branches of banks. It was also understood that while most of them were ready for acceptance of a digital economy, many were of the view that for such a penetration of digital banking throughout the country, a lot of awareness and training would need to be imparted to people.

Our study indicates that ATMs and phone banking are the two most important channels that are required to exist or complement the internet only banks or the internet banking channel in India. From discussions with the sample

population it was understood that, for withdrawal/ deposit of cash ATMs would be the most reliable and trustworthy channel. It was also understood that the banks being available 24 hours a day and 7 days a week through phone banking is a must in case of an electronic only banking model since that would be the channel customers would have to approach in case of any problems/ difficulties faced by them. Thus, banks should ensure that the expectations of the customers through electronic banking services are met and they are capable enough to understand the customers' requirements & respond accurately to them.

## CONCLUSIONS

This study sought to evaluate the probability of an internet only/ electronic only banking model substituting the traditional branch banking model in India and the channels that banks should focus on in case they offer an internet only/ electronic only banking channel. As more and more customers are embracing electronic banking for the convenience it offers, it is becoming important for banks to reconsider their product offerings and offer the services that are mostly demanded by their customers. In today's world of constant innovation and intense competition, it is imperative for banks to understand the dynamic customer expectations' in order to retain and improve their positions in the banking industry.

Human involvement in imparting services may lead to services not being imparted uniformly and may be subjective varying from person to person offering such services. This lack of uniformity and presence of subjectivity is leading people to demand services without human involvement with respect to their financial transactions. The expectations of today's customers' are so dynamic that they are changing every day. It is a challenge for banks to offer their services to customers' who want all financial services to be provided to them within seconds. In such a backdrop only those banks which adapt to and provide services exactly the way their customers want, would be able to last. The most important challenge that banks are facing today is not whether to focus on adoption and improvement of electronic banking but how fast can banks move to providing all banking services electronically, that will determine their success.

This paper has demonstrated through experimental data to understand the importance of offering an internet only/ electronic only banking model this could be a preliminary point that can be considered for, not only innovation, but also for scholars to understand important areas of electronic only banking and electronic banking channels that need more advanced research attention.

## LIMITATIONS OF THE STUDY

The study has covered people currently living in Mumbai. People living in non-metros as well as other metros may have different wants, lifestyles and demands compared to people living in metros. Also, the living standard and financial position of people may be different in metros & non-metros. Hence, the results may vary depending upon the city selected for finding out the adoption of internet only/ electronic only banking model and the channels complementing internet banking.

## REFERENCES

1. *RBI Monthly Bulletin, June 2011, Volume LXV Number 6*
2. *As seen on October 22, 2015 on <https://www.bankersonline.com/qa/what-definition-e-banking>*
3. *The Everyday Bank, 2015, Accenture*
4. *As seen/ accessed on November 13, 2016 on [http://en.wikipedia.org/wiki/Banking\\_in\\_India#Adoption\\_of\\_banking\\_technology](http://en.wikipedia.org/wiki/Banking_in_India#Adoption_of_banking_technology)*



5. *The Paperless Branch: Leveraging a New Digital World*, CapGemini, November 2013
6. As seen/ accessed on November 19, 2016 on <https://thefinancialbrand.com/59403/digital-banking-transformation-future/>
7. Accord Fintech, 2012
8. As seen/ accessed on November 19, 2016 on <http://www.livemint.com/Politics/9Vipq3XmcfQuhJRMBleuL/Indias-Internet-users-set-to-increase-49-to-402-million-by.html>
9. Dr.Amit Basak, 2014, "E- -Banking: A New Dimension in Indian Banking," *Srusti Management Review*, Vol -VII, Issue - II, Jul.- Dec., 2014, pp.50
10. Accenture Banking Consumer Pulse Report, 2015,
11. World Banking Report, 2016
12. RBI, Annual Report, 2015
13. As seen/ accessed on November 19, 2016 on <http://www.rediff.com/money/report/your-mobile-phone-to-double-up-as-debit-card/20160412.htm>
14. As seen/ accessed on November 19, 2016 on <http://www.businesstoday.in/magazine/special/best-banks-2012-future-of-branch-banking-in-india/story/189927.html>
15. Robert De Young, 2001, "The financial progress of pure play internet banks", *BIS Paper No. 7*, pp. 5-14
16. DeYoung R, Lang W W and Nolle D E ,2007, "How the Internet affects output and performance at Community Banks," *Journal of Banking and Finance*, pp. 1033-1060
17. Delgado J, Hernando I and Nieto M J, 2007, "Do European Primarily Internet Banks Show Scale and Experience Efficiencies," *European Financial Management*, Vol. 13, No.4, pp. 643-671
18. Cyree Ken B, Delcours, Natayla, Dickens, Ross (2009), "An examination of the performance and prospects for the future of internet-primary banks", *Journal of Economics and Finance*, pp.128-147
19. Tom Wamalwa, 2006, "The Impact Of Internet Banking On Banks: A Descriptive And Evaluative Case Study Of A Large U.S. Bank (Lusb)- Capella University
20. Wong DH, Rexha N, Phau I, 2008, "Reexamining Traditional Service Quality in an E-banking Era," *International Journal of Bank Marketing*, Vol. 26, pp. 526-545.
21. Myria Ioannou and Judy Zolkiewski, 2009, "Can retail bank-client relationships be developed online?," *EuroMed Journal of Business*, Vol. 4 No. 3, pp. 2-10
22. Driga and Isac (2014), *Annals of the University of Petroșani, Annals of the University of Petroșani, Economics*, Vol.14 No.1, 2014, pp. 49-58
23. As seen/ accessed on November 19, 2016 on <http://www.businesstoday.in/moneytoday/banking/india-e-banking-mobile-banking-popular-branch-banking-stays/story/191073.html>
24. Tom Marschall, 2015, *White Paper on Branch Transformation: Enabling retail banking for the next generation*
25. As seen/ accessed on November 19,2016 on <https://thefinancialbrand.com/37287/migrating-banking-customers-to-digital/>
26. Niels Peter Mols, Per Nikolaj D. Bukh, Jørn Flohr Nielsen, (1999) "Distribution channel strategies in Danish retail banking", *International Journal of Retail & Distribution Management*, Vol. 27 Iss: 1, pp.37 – 47

27. Sonia Sharma (2016), "A detail comparative study on e- banking vs traditional banking", *International Journal of Applied Research* 2016; 2(7): pp.302-307
28. Sabita Paul, 2013, 'The Adoption of Electronic Banking (E-Banking) in Odisha, India,' *International Journal of Scientific C& Technology Research*, Vo. 2, Issue 5, pp.4-5
29. N. Kamakodi, Basheer Ahmed Khan, 2008, 'Looking beyond technology: a study of e-banking channel acceptance by Indian customers', *International Journal of Electronic Banking*, Vo. 1, No.1, 2008
30. Shilpan Vyas, 2008, 'Impact of ebanking on traditional banking services', *School of Computer Science and Information Technology*, Singhania University
31. Seema Malik, 2014, *Technological Innovations in Indian Banking Sector: Changed face of Banking*, *International Journal of Advance Research in Computer Science and Management Studies*, pg.122-128
32. Fethi Calisir, Cigdem Altin Gumussoy, 2008, *Internet banking versus other banking channels: Young consumers' view*, *International Journal of Information Management*, Volume 28, Issue 3, June 2008, Pages 215–221
33. Wendy W.N. Wan, Chung-Leung Luk, Cheris W.C. Chow, (2005) "Customers' adoption of banking channels in Hong Kong", *International Journal of Bank Marketing*, Vol. 23 Iss: 3, pp.255 – 272
34. Lia Patrício, Raymond P. Fisk, João Falcão e Cunha, (2003) "Improving satisfaction with bank service offerings: measuring the contribution of each delivery channel", *Managing Service Quality: An International Journal*, Vol. 13 Iss: 6, pp.471 - 482

## APPENDIX

**Table 18**

Particulars
Table 1: ATMs of Scheduled Commercial Banks
Table 2: Age of respondent
Table 3: Gender of respondent
Table 4: Selection of an internet only Banking model
Table 5: Classification of customer who would opt for an internet only Banking model based on gender
Table 6: Classification of customer who would opt for an internet only Banking model based on age
Table 7: Internet only banking model/ electronic only banking model would substituting the branch banking model
Table 8: Necessity for branches
Table 9: ATMs as a complement to internet banking channel
Table 10: Mobile Banking as a complement to internet banking channel
Table 11: Phone Banking as a complement to internet banking channel
Table 12: Debit Cards/ Credit Cards as a complement to internet banking channel
Table 13: Component Matrix- Internet Only Banking Model
Table 14: KMO and Bartlett's Test- Internet Only Banking Model
Table 15: Component Matrix- Complementary ebanking channels with internet banking channel
Table 16: KMO and Bartlett's Test- Complementary ebanking channels with internet banking channel